

CONSTRUCTION

VIEWGRAPHS

FEDERAL ACQUISITION INSTITUTE

CURRICULUM OF PROCUREMENT
TRAINING COURSES

CURRENT THROUGH
FAC 90-26

OFFICE OF ACQUISITION POLICY
GENERAL SERVICES ADMINISTRATION

CONSTRUCTION CONTRACTING

FAI

Federal Acquisition Institute

CLASSIFICATION OF CONSTRUCTION PROJECTS

In Terms of Time

In Terms of Dollar Value

TERMS of TIME

- **Short Term** (Immediate)
- **Intermediate** (Within a year)
- **Long Range** (5 year budget cycle)

TERMS of DOLLAR VALUE

- **Minor** (Under 1.5 million)
- **Major** (Over 1.5 million)

FIVE YEAR CYCLE FOR LONG RANGE PROJECTS

MILESTONES



EVENTS

Guidance

Design

Budget

Program

Execution



FIVE YEAR CYCLE FOR LONG RANGE PROJECTS

MILESTONES



EVENTS

Guidance

Design

Budget

Program

Execution



Need Identified

Concept A/E

Funding

Congress Oks

CBD / Award

CONSIDERATIONS

- 1. Project must be designed in accordance with applicable codes and standards.**
- 2. Plans and specifications must be tailored to client's needs and varying conditions.**
- 3. Must be properly sequenced.**

ACQUISITION PLANNING DEFINED

FAR 7.101

"The process by which the efforts of all personnel responsible for an acquisition are coordinated and integrated through a comprehensive plan for fulfilling the agency need in a timely manner and at a reasonable cost. It includes developing the overall strategy for managing the acquisition."

CONSTRUCTION PROJECT TERMS

- **Traditional Lump Sum**
 - **Design Build (Turnkey)**
 - **Job Order Contracting (JOC)**
 - **Packaging**
 - **Combination Lump Sum, Unit Price**
 - **Term Contracts**
 - **Demolition (Service or Construction)**

A/E CONTRACTING DECISION CRITERIA

- **Size and complexity of the project**
- **Schedule constraints**
- **User needs**
- **Procurement strategy**
- **Funding constraints**
- **Availability of design criteria**
- **Availability of existing / term contract**
- **In-house capabilities**

BROOKS ACT

- **Uniform Selection Procedures**
 - Selection Board
 - Selection Authority
- **Definition of Professional Services**
- **Names and Qualifications Revealed**
 - Professionals employed by A/E firm
- **Announcement A/E Contract Awards**

OTHER ISSUES TO BE RESOLVED

- All Impact Statements Filed.**
- All Necessary Permits Obtained.**
- Environmental Issues Addressed.**

If real estate is not under U.S. ownership, provisions made to complete transactions to purchase property, including any easements.

REQUIREMENT FOR REVIEW

FAR 14.202-6

"Each Invitation for Bids shall be thoroughly reviewed before issuance to detect and correct discrepancies or ambiguities that could limit competition or result in the receipt of nonresponsive bids."

Contracting officers are responsible for the reviews.

SPECIFICATIONS

present:

QUALITY

(Technical & Legal Requirements)

DRAWINGS

present:

FORM

(Visual & Graphic Requirements)

PURPOSE OF: GUIDE SPECIFICATIONS

"To Standardize the
Scope and **Format** of a
Construction Project."

NAME THAT DIVISION

- Metal Storage Shelving 12
- Site Lighting (Temporary) 1
- Gutters & Downspouts 7
- Temporary Lighting 1
- Metal Stairs 5
- Weatherstripping & Seals 7
- Exposed Aggregate Concrete 3
- Structural Precast Concrete 13
- Highway Paving 2
- Gas Turbine Generators 11

CSI SPECIFICATION DIVISION FORMAT

PART I General Information

PART II Products & Materials

PART III Execution of Work

PART I

GENERAL INFORMATION

- **References for the Specification**
- **Description of the Project**
- **Submittals Required**
- **Drawings**
- **Matters of Safety**

PART II

PRODUCTS & MATERIALS

- **Descriptive Information**
- **Acceptable Manufacturers**
- **Mixes**
- **Fabrication**

PART III

EXECUTION OF THE WORK

- **Workmanship**
- **Installation**
- **Testing Requirements**
- **Inspection**
- **Quality**

TYPES OF SPECIFICATIONS

SEISMIC CRITERIA: All equipment furnished and installed under this contract shall be designed to resist seismic forces and shall be suitably anchored to structural foundations and structural support members so as to preclude sliding or overturning under seismic loading. All pipings systems shall be braced or restrained to preclude damage or permanent deformation under seismic loadings.

TYPES OF SPECIFICATIONS

VERTICAL RUNS OF PIPE not over 15 feet long shall be supported by hangers placed not over one foot from the elbows on the connecting horizontal runs, or as indicated on the drawings.

TYPES OF SPECIFICATIONS

VERTICAL RUNS OF PIPE over 15 feet long but not over 60 feet long and not over 6 inches in size, or not over 30 feet long and not over 12 inches in size, shall be supported on heavy steel clamps. Clamps shall be bolted tightly around the pipes and shall rest securely on the building structure without blocking.

SMALL BUSINESS PROGRAMS IMPACTING CONSTRUCTION

- 1. Small Business Set Asides**
- 2. SBA 8(a) Set Asides**
- 3. Small Business Competitiveness
Demonstration Program**

NON-COMPLIANCE WAIVER

FAR 28.101-4(c)(3)

"The amount of the **bid guarantee** submitted, although less than that required by the solicitation's maximum quantity offered, is sufficient for a quantity for which the offeror is otherwise eligible for award. Award to the offeror shall not exceed the quantity covered by the bid guarantee."

UNREASONABLE PRICES

- **Determination based on comparison:**
 - Bid prices
 - Past procurement history
 - Current market conditions

- **Cancellation is a proper exercise of agency discretion when bids exceed the Government estimate.**

- **Determination as to unreasonableness of price will be sustained by the courts barring bad faith or fraud.**

FEATURES OF CQC

CONTRACTOR MUST:

1. Establish a Separate Control Organization
2. Furnish Quality Control Plan
3. Maintain Records of All Actions

DESCRIPTION OF CQC PLAN

- Structure of QC Organization
- Personnel Assigned to QC Organ.
- Head of the QC Organization
- Submission of Submittals
- Control & Testing Procedures
- Reporting Procedures

SUBMITTAL REGISTER

LISTING REQUIRED BY CONTRACT:

- **Shop Drawings**
- **Manufacturer's Literature on**
 - **Materials**
 - **Equipment**
- **Certificate of Compliance**
- **Samples**

NETWORK ANALYSIS

GRAPHIC DISPLAY OF HOW & WHEN

- 1. Includes All Activities**
- 2. Schedule for Directing Work**
- 3. Approved by CO**
- 4. Requires Monthly report**

SCHEDULE

FAR 52.232-5

'The contractor shall furnish a breakdown of the total contract price showing the amount ... for each principal category of work, ..'

Intent is to have schedule which results in accurate progress payments from easily measured field progress in each work category.

BAR CHART

ADVANTAGES

- Simple to Use
- Inexpensive
- Easy to Understand



DISADVANTAGES

- Shows only a limited degree of dependency

CRITICAL PATH

ADVANTAGES

- Used by Courts
- Interdependent
- Cause & Effects
- Impacts/Delays
- Used to Negotiate
- Separate Float

DISADVANTAGES

- Calculations are tedious in claims & time consuming if done manually.
- GI-GO network only as good as data put into computer.

RULES on SUBSTITUTIONS

- 1. Non-availability.**
- 2. Contractor cannot perform.**
- 3. Proposed equipment or material fulfills purpose intended.**

GOOD FAITH EFFORT

- **Willful or intentional failure to perform in accordance with the plan, or**
- **Actions to frustrate the plan.**

CONSTRUCTION MATERIAL

ARTICLES

MATERIALS

SUPPLIES :

- **brought to the construction site**
- **for incorporation into the**

Building or Work

DOMESTIC CONSTRUCTION MATERIAL

- 1. Unmanufactured construction material mined or produced in the U.S.**
- 2. Construction material manufactured in the U.S., if the cost of its components mined, produced, or manufactured in the U.S. > 50% of the cost of all its components.**

COMPONENT

Articles, Materials, Supplies

- brought to the work site
- preassembled
- emergency life safety systems

LABOR LAWS

- 1. Davis Bacon**
- 2. Contract Work Hours and Safety Standards**
- 3. Copeland Anti-Kickback**
- 4. Equal Employment Opportunity**
- 5. Fair Labor Standards**
- 6. Occupational Safety and Health**
- 7. Service Contract Act**

LABOR LAW APPLICATION

DETERMINED BY:

- 1. NATURE of the CONTRACT**
- 2. \$ AMOUNT of the CONTRACT**

CWHSSA

**Requires Overtime Pay
Rate of 1 & 1/2 Hours of
Basic Hourly Pay for
Working More than 40
Hours per Week**

PENALTIES FOR VIOLATIONS

DAVIS BACON

- Termination
 - Withhold monies due
 - Debarment up to 3 years
-

FLSA

- Pay wages & liquidated damages
-

CWHSSA

- Liable for unpaid wages
 - Liquidated damages to Gov't.
 - Funds may be withheld
-

COPELAND ANTI-KICKBACK

- Fines up to \$5000 or prison

CHECK IS "IN THE MAIL"

- Each Progress Payment is due 14 days after receipt of proper invoice.

- Retainages, 30 days after release.

- Final payment, 30 days after invoice, or Gov't acceptance, whichever is later.

EXCEPTIONS

Disagreements over Quality of Work

Invoice not Properly Prepared

CONTRACTOR CERTIFIES

THAT:

- 1. Dollar amounts constitute performance.**
- 2. Past subcontractor payments have been timely, and will be with current invoices.**
- 3. Dollar amounts do not include any planned subcontractor withholdings.**

3 LEVELS of INSPECTION

1. **No Formal System** (contracts under \$25,000).
2. **"Inspection of Construction"** (basic clause).
3. **Contractor Quality Control** (detailed CQC system).

CONSTRUCTION MANAGER DUTIES

VG 6 -9

- 1. Determine that Work is Done i/a/w the Contract.**
- 2. Guard against Defects & Deficiencies.**
- 3. Require Special Inspection & Testing.**
- 4. Reject Non-conforming Work.**

TYPES OF INSPECTIONS

- **OFFSITE**

- **INTERIM**

- **OCCUPANCY**

- **JOINT**

- **PRE-FINAL**

- **FINAL**

PERFORMANCE EVALUATION

\$10,000:

- If Contract was T for D.
- If any Element of Performance was Unsatisfactory or Outstanding.*

\$100,000: If Contract was T for C.*

\$500,000: All Contracts.

* Agency thresholds

***RUSH* PROJECT CALENDAR**

NEG	FRI	FRI	THU	WED	TUE	MON
8	7	6	5	4	3	2
16	15	14	13	12	11	9
23	22	21	20	19	18	17
31	30	29	28	27	26	24
38	37	36	35	34	33	32

DELAY ANALYSIS

1. DETERMINE ACTUAL PERIOD

- **sequence events**
 - **establish duration**
 - **use proper manning levels**

2. PRICE THE COSTS

- **labor**
- **material escalation**
- **storage**
- **unabsorbed overhead**
- **interest**

DISRUPTION ANALYSIS

1. STUDY COSTS OF

- **idle labor**
 - **idle equipment**
 - **inefficiencies from delay**

2. PRICE THE COSTS

- **labor**
- **storage**
- **interest**
- **material escalation**
- **unabsorbed overhead**

THREE TYPES OF DELAYS

EXCUSABLE

NOT COMPENSABLE, ALLOWING TIME, BUT NO MONEY

EXAMPLES

- Acts of God
- Strikes
- Disputes
- Unusually severe weather
- Sovereign acts of Government
- Subcontractor delay

THREE TYPES OF DELAYS

COMPENSABLE

ALLOWING FOR BOTH TIME AND MONEY

EXAMPLES

- Constructive suspension.
- Constructive acceleration.
- Suspension ordered for an unreasonable time.

THREE TYPES OF DELAYS

INEXCUSABLE

ALLOWING NEITHER TIME NOR MONEY

EXAMPLES

- Fraudulent, malicious, or bad faith conduct.
- Neglecting to order equipment or material.
- Employing an insufficient number of workers.

FIELD OFFICE OVERHEAD

COSTS OF MAINTAINING ONSITE OPERATIONS

EXAMPLES

- **Salaries: Timekeepers, Clerks, Supervisors**
- **Trailers/Sheds: Rental or Ownership**
- **Office Equipment or Supplies**
- **Utilities, Telephones, Sanitation Facilities**
- **Rental and Maintenance of Automobiles**

HOME OFFICE OVERHEAD

INDIRECT COSTS (G&A) TO KEEP HOME OFFICE FUNCTIONING

EXAMPLES

- Salaries
- Rent
- Electricity
- Bidding Costs
- Postage
- Travel
- Insurance
- Depreciation
- Advertising
- Professional Fees
- Supplies
- Bookkeeping

OVERHEAD

UNABSORBED vs. EXTENDED

UNABSORBED:

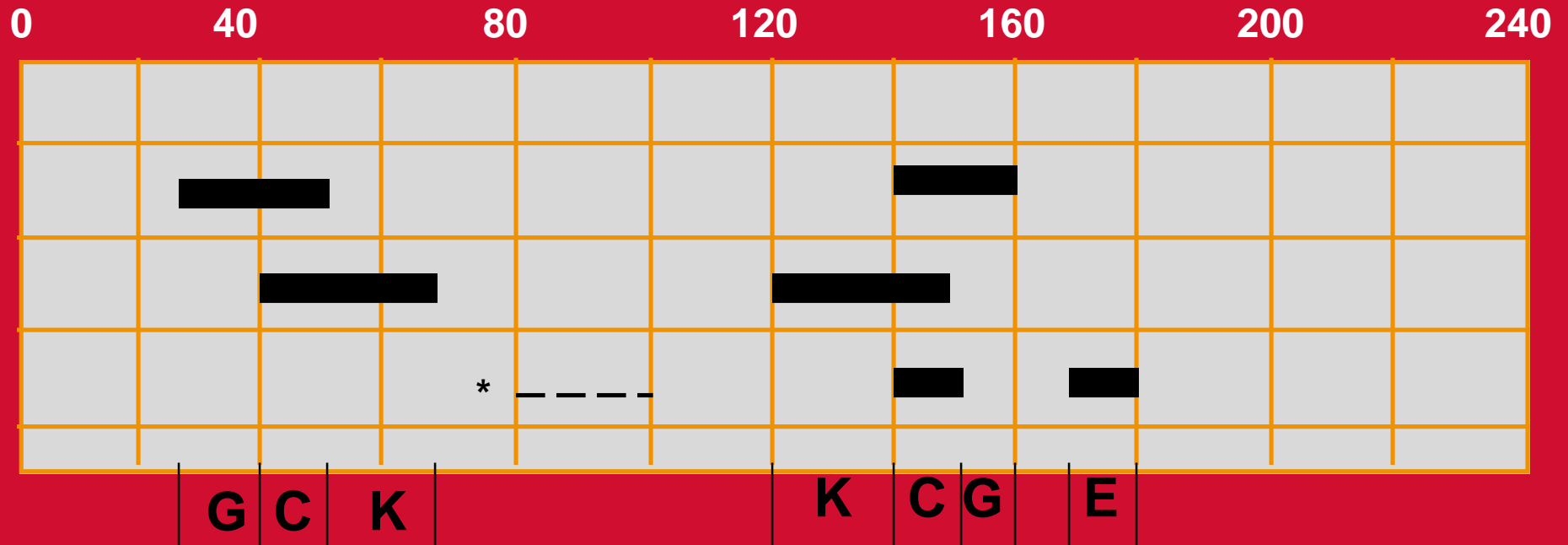
Seeks to compensate contractor for overhead which was not allocated to the contract.

EXTENDED:

Seeks recovery for overhead allocated to the contract in subsequent allocating periods.

1. Sketch Out "History" of the Project:

DAYS



K = Contractor
G = Government
C = Concurrent
E = Excusable

*** Strike is not a delay
since it happens
during the float time.**

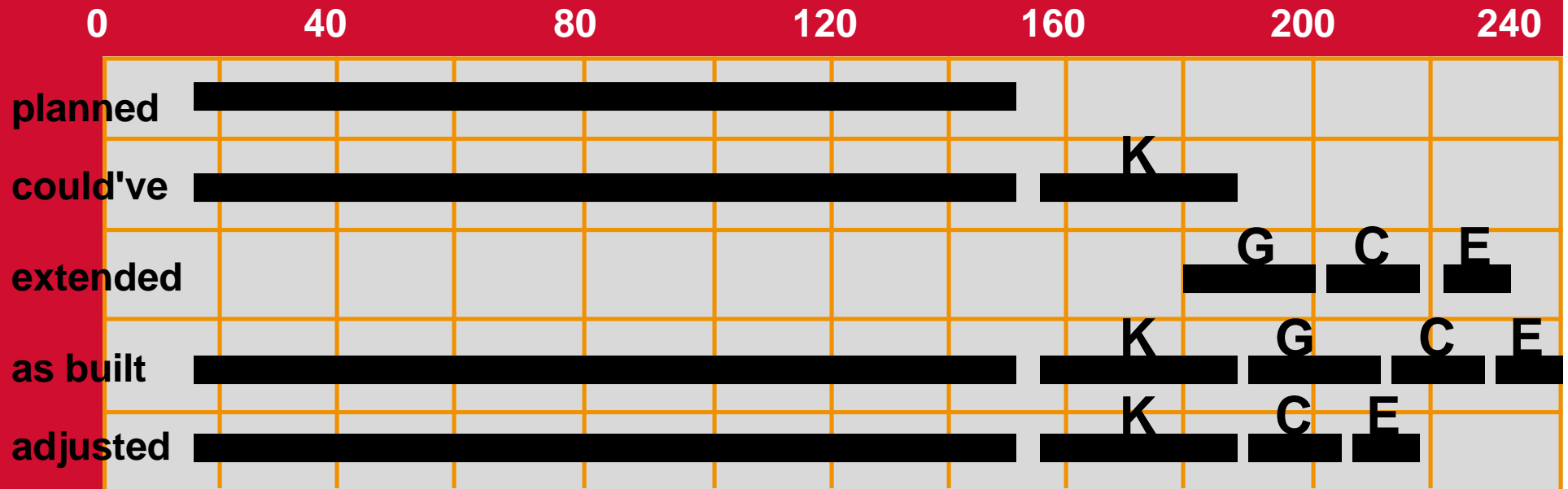
2. Determine the Following:

ANSWER

- | | |
|-----------------------------|----------------|
| a. Contractor Caused Delays | <u>40</u> Days |
| b. Government Caused Delays | <u>20</u> Days |
| c. Concurrent Delays | <u>10</u> Days |
| d. Excusable Delays | <u>20</u> Days |

3. Draw the Time Analysis Schedules:

DAYS



K = Contractor
G = Government
C = Concurrent
E = Excusable

4. Determine the Following:

ANSWER

- | | |
|----------------------------|----------------|
| a. Days Time Extension | <u>50</u> Days |
| b. Days Extended Overhead | <u>20</u> Days |
| c. Days Liquidated Damages | <u>10</u> Days |

SOURCES OF MODIFICATIONS

1. USER ORIGINATED

EXAMPLES

2. FIELD ORIGINATED

EXAMPLES

3. OTHER

EXAMPLES

SOURCES OF MODIFICATIONS

1. USER ORIGINATED

- Changing Needs
- May need Suspension of Work
- New Money for Additions or Changes

2. FIELD ORIGINATED

- Differing Site Conditions
- Price Adjustments for Estimated Quantities
- Design Deficiencies
- Ambiguities in Plans and Specs
- VECs - Delays - Change Orders

3. OTHER - Liquidated Damages Assessment

PREFERENCE FOR THE BILATERAL MODIFICATION

FAR 43.102(b)

"Contract modifications, including changes that could be issued unilaterally, shall be priced before their execution if this can be done without adversely affecting the interest of the Government. ...at least a maximum price shall be negotiated unless impractical."

DISADVANTAGES of ISSUING: "AFTER the FACT" MODIFICATION

- Transfers **Risk** from Contractor to Government.
- Fosters a Condition Bordering on **Cost-Plus-Percentage-of-Cost**.
- Makes Proper **Financial** Management Uncertain.

CHANGES

FAR 52.243-4

"(a) The Contracting Officer may, at any time, without notice to the sureties, if any, by written order designated or indicated to be a change order, make any changes in the work within the general scope of the contract..."

GUIDELINES IN DETERMINING SCOPE

- **Complex technical projects:**
expect more changes in scope.
- **Time:** not been considered a factor.
- **Number of changes:**
not been considered a factor.
- **Defective Government specs. having a significant impact on the work**

TYPES OF CHANGES

- **Specifications and Drawings**
- **Method of Performance**
- **Government Furnished Property**
- **Acceleration**

UNFORESEEN CONDITIONS

Big Time Changes Usually Result
In:

- **Big** Time Money and
- **Big** Time Extensions

SUSPENSION OF WORK

FAR 52.212-12

"(c) A claim under this clause shall not be allowed (1) for any costs incurred more than 20 days, before the contractor shall have notified the Contracting Officer in writing..."

CONTINGENCIES IN CHANGE PROPOSALS

- 1. Lack of Firm Plans & Specs.**
- 2. Unusual Nature of the Change.**
- 3. Lack of Information on Labor Force.**
- 4. Lack of Time to Prepare Proposal.**
- 5. Losses not Covered by Insurance.**
- 6. Lack of Confidence in Estimate.**
- 7. Uncertainty as to Impact Costs.**

EXCEPTIONS TO:

"FINAL ACCEPTANCE" BEING FINAL.

- **Latent Defects**
- **Fraud**
- **Gross Mistakes Amounting to Fraud**
- **Invoking Other Remedies**

ELEMENTS OF:

A CONSTRUCTIVE CHANGE

- 1. CHANGE**
- 2. EXPENSE**
- 3. ORDER**
- 4. WRITTEN NOTICE**

CONSTRUCTIVE ACCELERATION

- 1. One or More Excusable Delays.**
- 2. Notice Received.**
- 3. Governm't Denial of Time Extension.**
- 4. Order by Governm't to Accelerate.**
- 5. Notice by Contractor that Order is Considered an Acceleration.**
- 6. Incurrence of Added Costs.**

Classic Constructive Acceleration

1 Year Contract Schedule 1 Month

Extension

Entitlement -----/-*-----/------/-----

-----/-

(1 mo. strike)

(1

mo. of ext. entitlem't)

* Government Directs Contractor:

"Meet Original Schedule."

* Government Says: "Don't Submit Time
Extension Request-Won't be Granted."

COST CLASSIFICATIONS

1. VARIABLE

Costs that Vary Directly with the Workload of the Contract.

2. FIXED

Costs that the Contractor Incurs Simply by Being in Business.

3. SEMIVARIABLE

Neither Entirely Variable nor Fixed.

CONTRACTING OFFICER'S DECISIONS

- 1. Review Facts**
- 2. Obtain Legal Assistance**
- 3. Coordinate with All Offices
Involved**
- 4. Prepare a Written Decision**

CONTRACT DISPUTES ACT

For Contractor Claims < \$50,000:

Within 60 days, Contracting Officer must, if requested in writing, issue a final decision on a dispute.

For Contractor Claims > \$50,000:

Within 60 days, Contracting Officer must decide the claim or notify the contractor of the date by which the decision will be made.

DISPUTES INTEREST

Government shall pay interest on amount found due & unpaid from:

- 1. Date Contracting Officer receives claim (properly certified if required), or**
- 2. Date payment otherwise would be due, if that date is later, until the date of payment.**

KEY ELEMENTS DELAY CLAIM

1. ENTITLEMENT (Because)

2. SCHEDULE IMPACT

(Must show effect on completion.)

3. COST IMPACT (\$ Breakout)

CLAIM AVOIDANCE

- 1. Meet Issues Head on**
- 2. Resolve Disagreements Quickly**
- 3. Manage the Dispute**
- 4. Negotiate**
- 5. Disputes are Time Sensitive**
- 6. Timely Documentation**

INITIAL CLAIM REVIEW

- 1. Identify Issues in Contractor's Claim**
- 2. Develop Chronology of Events**
- 3. Verify Chronology by Data in File**
- 4. Analyze CPM / Bar Chart**
- 5. Identify Applicable Clauses**
- 6. Respond Point by Point to Issues**

CLAIM REVISITED

- 1. Decide if Issues are True**
- 2. Technical Audit**
- 3. Analyze Claim's Engineering Approach: Time & Manhours**
- 4. Perform Cost Analysis**
- 5. Legal Analysis**

OBJECTIVES OF REMEDY SELECTION

SELECTING ONE WHICH:

- Minimizes Impact
- Provides Reasonable Consideration

TYPES OF REMEDIES

A / E LIABILITY

PREVENTATIVE

PROVIDED BY CLAUSES

CURE / SHOW CAUSE NOTICES

TO TERMINATE or NOT TO TERMINATE

- **Decision is Discretionary**
- **Be Mindful of Surety's Obligations**
- **Must be Exercised in Good Faith**

ALTERNATES TO DEFAULT

VG 9-11

- **Revise Completion Schedule**
- **Completion by Third Party**
- **Surety Takeover**
- **No-cost Settlement**
- **Deductive Contract Modification**

WAIVER OF TERMINATION?

- | | | |
|--|---|------------|
| 1. Discussing Progress | → | NO |
| 2. Ignoring Pleas for More Time | → | YES |
| 3. Urging Continued Performance | → | YES |
| 4. Accepting Partial Performance | → | NO |
| 5. Issuing Change Orders | → | YES |
| 6. Issuing Supple. Agreements | → | YES |
| 7. Implying Forgiveness for Delinquency | → | YES |
| 8. Saying Liquid. Damages will be Collected | → | NO |